THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 28

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte DANIEL FRYE, ALAN FOUGERE,
KENNETH DOHERTY and NEIL BROWN

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Appeal No. 1998-1600
Application No. 08/434,898

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ON BRIEF

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Before THOMAS, KRASS and DIXON, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claim 8, the sole claim remaining in the application.

The invention is directed to an inductively coupled underwater modem as set forth in claim 8, reproduced as follows:

8. An inductive modem telemetry system for use in collecting data in seawater, the system comprising:

an electrically insulated wire rope immersed in seawater;

a plurality of subsurface instruments removably attached to the wire rope at preselected locations;

master modem means for inductively coupling a plurality of subsurface instrument specific wake-up command signals to each subsurface instrument through the wire rope with a return path through the seawater;

a transducer in each subsurface instrument to generate a data signal related to the data to be collected;

a slave modem in each subsurface instrument interconnected with the transducer to generate modem encoded signals related to the data signal, and receive modem encoded signals from the master modem;

an inductive coupler in each subsurface instrument enveloping the wire rope and interconnected with the slave modem, the inductive coupler constructed to induce and receive electrical signals in accordance with the modem encoded signals in a signal path to the master modem including substantially equal length path legs in the wire rope and in the seawater;

switch means in each subsurface unit operable in a sleep mode for reducing power consumption of the subsurface instrument by removing power from the transducer and slave modem; and

a continuously powered wake-up detector in each subsurface instrument for operating the switch means to apply power to the transducer and the slave modem in response to the wake-up signal specific to that subsurface instrument.

The examiner relies on the following references:

Murdock	3,314,009	Apr. 11, 1967
Echert et al. (Echert)	4,924,698	May 15, 1990
Schultz	5,083,457	Jan. 28, 1992

Claim 8 stands rejected under 35 U.S.C. § 103 as unpatentable over Murdock in view of Echert and further in view of Schultz.

Reference is made to the brief and answer for the respective positions of appellants and the examiner.

OPINION

We reverse.

The language of claim 8 clearly calls for two-way communication between the master modem means and the slave modem in each subsurface instrument. Neither Murdock nor Echert, the two primary references dealing with oceanographic data collection, discloses such two-way communication. They are each concerned with the sending of data (i.e., collection of data) from the subsurface instrument to the boat or buoy. Neither Murdock nor Echert teaches communication from the boat or buoy to the subsurface instrument. Further, neither of these references teaches the claimed wake-up detector.

The examiner employs Schultz for the teaching of a wake-up detector for the purpose of saving battery power and combines this teaching with Murdock and Echert,

concluding that it would have been obvious to save power in batteries used in oceanographic data collection systems by employing a wake-up detector. The examiner then extends this reasoning to conclude that since it would have been obvious to include a wake-up detector in the Murdock-Echert combination, it would have been obvious to have two-way communication since a signal must be sent to the instrument with the wake-up detector in order to activate the wake-up detector. For their part, appellants contend that Schultz constitutes nonanalogous art and it is inapplicable to the present invention.

Assuming, arguendo, that Schultz constitutes analogous art because it deals with a pressure transducer and pressure is one of the items sensed in the oceanographic arts [see column 1, line 19 of Murdock], we still do not agree that the combination of the three references makes the instant claimed subject matter obvious within the meaning of 35 U.S.C. § 103.

Claim 8 requires a master "modem" and a slave "modem." This is what enables the two-way communication in the instant invention. We do not find such modems in the applied prior art. While appellants admit, in the background section of the specification, that transceivers were known to be used in oceanographic data collection systems, and transceivers are clearly two-way communicators, the admitted transceivers collect, or receive, data from the subsurface instruments and then transmit

data not to the subsurface instruments, as does the instant claimed invention, but, rather, to a satellite.

Clearly, Schultz does not disclose a modem. At best, Schultz discloses a general teaching of a wake-up call in order to preserve battery power in a pressure measuring device. Therefore, it is difficult to see how any combination of Schultz with the other two references would result in the two-way communication claimed wherein a master modem means inductively couples a plurality of subsurface instrument specific wake-up command signals to each subsurface instrument and a slave modem in each subsurface instrument generates modem encoded signals related to the data signal and receives modem encoded signals from the master modem.

Further, claim 8 requires that the subsurface instrument to receive the wake-up call be selective; i.e., the use of instrument specific wake-up commands. Thus, the claim recites, that the master modem inductively couples a "plurality of subsurface instrument specific wake-up command signals to each subsurface instrument" and that there is a switch means operable in a sleep mode "in each subsurface unit" for reducing power consumption of "the" subsurface instrument by removing power from the transducer and slave modem. Further, there is a "continuously powered wake-up detector in each subsurface instrument" so that the switch means may apply power to the transducer and the slave modem in response to the wake-up signal specific to that

subsurface instrument. At best, the wake-up command signal in Schultz turns on or off all sensors but the command may not select a particular sensor or sensors to activate. The instant claimed invention, however, permits the selection of only targeted wake-up detectors in specific subsurface instruments. We find no reason why the skilled artisan would have been led to such a selective activation of wake-up detectors in specific subsurface instruments based on the teachings of Murdock, Echert and Schultz.

Accordingly, the examiner's decision rejecting claim 8 under 35 U.S.C. § 103 is reversed.

REVERSED

JAMES D. THOMAS Administrative Patent Judge	)	
ERROL A. KRASS Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
JOSEPH L. DIXON Administrative Patent Judge	)	

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